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An Assessment of Education Management Information System (EMIS) Facilities in some Selected Secondary Schools, Ondo State, Nigeria

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ABSTRACT: Maximizing teaching quality in educational setting remains the main challenge for most schools in Nigeria today. To tackle this challenge, there is need for regular assessment of Education Management Information System (EMIS) facilities available to teachers for improved management and monitoring of the learning system towards effective educational decision making. This study assessed the availability and accessibility of EMIS facilities to teachers in secondary schools of Ondo North Senatorial District, Nigeria. The samples consist of 240 respondents (200 teachers and 40 principals/vice principals) from the sampled public (10) and private (10) secondary schools. Simple random sampling technique was used to select two (2) principals/vice principals and ten (10) teachers from schools. Data were analyzed using descriptive statistical method that include percentage and mean score. The decisions on students responses were based on Mean Values (X) and the Grand Mean values calculated. The decision states, accept the perception if the Mean Value is greater than the Mean Grand Value and verse versa. Hence, mean X< 2.50 was regarded as low, X>2.50 or = 3.49 as moderate, X>3.50 as high. Results show that; The Grand Mean value of 3.09 depicts a moderate availability of EMIS facilities in both public and private secondary schools in the study. However, EMIS facilities were not fully accessible to teachers

because of the significant differences noted in private and public secondary schools. The high level of EMIS facilities in private schools suggests that public secondary schools should be improved upon for better educational management and development.

Keywords: *EMIS, Secondary school, Teacher, Education management, Information system, EMIS facilities*

INTRODUCTION

The advancement of society relies on quality of its educational system. Also, the capacity to produce efficiently by an individual involves skills and knowledge that education provides. Research studies support education as the key factor for sustainable growth of a nation (Katane, Kristovska & Katans, 2014; Thompson, Miller, & Franz, 2013). However, maximizing teaching quality in learning setting remains the main challenge for most schools today (Moore, 2014; Sagitova, 2012). To tackle this challenge as noted by Kim, Park, & Kim (2014), there is need for regular assessment of Education Management Information System (EMIS) facilities available to teachers for improved management and monitoring of the learning system towards effective educational decision making.

The focus of an EMIS has been on improving educational quality, through enhancing students learning habit, creating conducive environment for learning, preparing relevant learning content, advancing the skill and training of teachers, and the linkage between the outcomes of students' educational system and their general positive contributions to society. Educational quality is thus go beyond with inputs in terms of school attendance, but also with educational processes that bothers on teaching methods for quality outputs.

Currently, there is awareness of increasing trends in adopting education-based system in secondary schools across the country. This is to achieve paradigm shift in various information systems in schools. The typical example of this is the changing from the use of manual education materials that include pen and paper to computer-based system where computer hardware, software and internet are the basis of information processing and sharing. In such a situation, an information system that provides

information for the management of educational development and effective decision-making, monitoring and evaluation of education activities, is referred to as Education Management Information System (EMIS). Indeed, EMIS provides knowledge to education stakeholders about the status of the education system as a whole and the learning outcomes for national development.

In order to initiate a robust educational management system, the school principals are expected to properly deploy teachers based on their area of specializations and enhance their professional skills through available managerial tools that can improve their productivity. As noted by Ogunbamerun (2012), teachers needed improved modern facilities to facilitate quality instructional planning, curriculum implementation and evaluation skills towards achieving educational goals of increased teacher productivity.

Application of information system in education has been an age long debates among the researchers (Webber, 2003; Flanagan & Jacopsen, 2012; Pelgrum, 2001; Yuen, Law & Wong, 2003). The efforts is to develop a paradigm shift in the education system in providing citizens with the most contemporary education in line with the global trend. Also, in considering the big investment plans about the use of information systems being put into action all over the world (Pelgrum, 2007).

Education Management Information System (EMIS) is becoming a widely used system and viewed as essential in all areas of operations in education system. This requires effective and dynamic school administration. As noted by Gray and Smith (2007), the school administrator of twenty-first century are to appreciate the use of information system in order to overcome administrative lapses in Education Management System. It should be noted that adoption of EMIS is an improved method towards quality delivery of education in Nigeria.

The principals being the school managers are expected to put in place effective coordination by integrating the various departments, units and sub-units in a unified operation towards ensuring best practices in teachers' instructional tasks performances. Acording to Ayeni & Akinfolarin (2014), the management process equally involves creating a linking based on objectives, activities and strategies of

different work units (departments or functional areas) in a systematic manner, in order to ascertain the appointment of teachers as unit heads; with the goals and responsibilities clearly defined and communicated to all members of the school organization. This process is capable of minimizing administrative bottlenecks, inducing inter-departmental cooperation, facilitates information processing, promotes innovation, and optimal utilization of resources, which enable the school organization to consistently improve the quality of instructional resource inputs, process and output for the accomplishment of the educational goals.

During the recent covid-19 pandemic, many schools experienced total locked down whereby teachers and students were negatively affected. In order to ensure educational breakthrough in a precarious time, quality educational management should be put in place with adequate provision of EMIS facilities to schools. These facilities could include, internet, school website, multimedia projector, computer, telephone, photocopy machine, camera, and printer for effective means of management and teacher's instructional tools.

MATERIALS AND METHOD

The target population comprised all the principals/vice principals and teachers in secondary schools in Ondo State, Nigeria. The population for the study consisted of all the 153 (91 public and 62 private) government approved secondary schools in Ondo North Senatorial District, which comprises six Local Government Areas (LGAs). The samples consist of 240 respondents (200 teachers and 40 principals/vice principals). The samples were selected using multistage sampling procedure. The Ondo North senatorial district was clustered into three zone namely: Akoko North East, Akoko South West, and Owo LGAs. Purposive sampling technique was used to select 200 secondary schools (100 public and 100 private) that have EMIS facilities and approved by the Ondo State Government. Simple random sampling technique was used to select two (2) principals/vice principals and ten (10) teachers from each school (both public and private). This gave a total of forty (40) principals/vice principals and two hundred (200) teachers.

There are two self-constructed research instruments developed and used by the in this study. The first instrument is titled "Principal Education Management Information System Questionnaire (PEMISQ)", and Teachers Education Management Information System (TEMIS). The researcher visited the sampled public (10) and private (10) secondary schools of the study locations and administered questionnaire to the sampled 200 teachers and 40 school Principals/vice principals. All data collected for the study were analyzed using descriptive statistical method that include percentage and mean score. The decisions on students responses were based on Mean Values (X) and the Grand Mean values calculated. The decision states, accept the perception if the Mean Value is greater than the Mean Grand Value; while decision is rejected if Grand Mean Value is higher than the Mean Value calculated. Further, the mean score below 2.50 was regarded as low, mean scores between 2.50 and 3.49 were regarded as moderate and mean scores from 3.50 and above were considered high.

RESULTS

Level of availability of EMIS facilities in public and private secondary schools

In evaluating the availability status of EMIS facilities in secondary schools in this study, 4-point Likert scale for rating the perception of 20 respondents each from the both selected public and private secondary schools' principals/vice principals in Ondo North Senatorial District was adopted.The rating of respondents' perception were categorized as AA-Always Available, OA - Often Available, SA - Seldomly Available, and NA-Never Available.

Responses to research question one were analyzed and presented in Table 1. This research question was addressed by responses in section of the questionnaire distributed to principals/vice principals, who were asked to indicate the availability of EMIS facilities in both public and private schools. The result showed that all the items involved in the analyses were available in schools, except computer, which has a mean value of 1.88 below the Grand Mean of 3.09. The analysis further indicates that the availability of telephone (3.0), internet (3.45), photocopier (3.13), printer (3.13), digital/video camera (3.0), fax machine (3.3), and school website (3.48), were

considered moderate in the selected schools. However, the availability of projector is high with the mean value of 3.53. Generally, the Grand Mean value of 3.09 depicts a moderate availability of EMIS facilities in both public and private secondary schools of the study area.

Table 1: Availability of EMIS facilities by Principal/Vice Principals in both Public and Private Secondary Schools

Items		**AA**	**OA**	**SA**	**NA**	$\bar{x}$	**Remarks**
Computer	Freq	5	5	10	20	1.88	Rejected
	%	12.5	12.5	25	50		
Telephone	Freq	20	5	10	5	3.0	Accepted
	%	50	12.5	25	12.5		
Internet	Freq	28	4	6	2	3.45	Accepted
	%	70	10	15	5		
Photocopier	Freq	10	25	5	-	3.13	Accepted
	%	25	62.5	12.5	0		
Printer	Freq	20	10	5	5	3.13	Accepted
	%	50	25	12.5	12.5		
Digital/ Video camera	Freq	20	10	5	5	3.0	Accepted
	%	50	25	12.5	12.5		
Fax machine	Freq	18	10	10	2	3.3	Accepted
	%	45	25	25	5		
School Website	Freq	22	12	5	5	3.48	Accepted
	%	55	30	12.5	12.5		
Projector	Freq	23	15	2	-	3.53	Accepted
	%	57.5	37.5	5	0		

Grand Mean=3.09

The level of availability of EMIS facilities in private secondary schools was shown in Table 2. Result showed varying responses on the level availability of EMIS, though nearly all the respondents agreed that EMIS facilities were moderately

available with respondents agreed with their scores above 2.5 cut-off point of 4-point Likert scale. However, respondents indicated a non-availability of item 1, which focused on computer with a low mean of 1.65. With a grand mean of 3.02 it showed that EMIS facilities were moderately available in private secondary schools.

Table 2: Availability of EMIS facilities by Principal/Vice Principals in Private School Secondary Schools

Item		**AA**	**OA**	**SA**	**NA**	**X**	**Remark**
Computer	Freq %	-	3 15.0	7 35.0	10 50.0	1.65	Rejected
Telephone	Freq %	9 45.0	8 40.0	3 15.0	-	3.30	Accepted
Internet	Freq %	8 40.0	9 45.0	3 15.0		3.25	Accepted
Photocopier	Freq %	7 35.0	9 45.0	4 20.0	-	3.15	Accepted
Printer	Freq %	7 35.0	8 40.0	5 25.0	-	3.10	Accepted
Digital/Video camera	Freq %	6 30.0	7 35.0	4 20.0	3 15.0	2.80	Accepted
Fax machine	Freq %	10 50.0	8 40.0	2 10.0	-	3.40	Accepted
School Website	Freq %	7 35.0	10 50.0	3 15.0	-	3.20	Accepted
Projector	Freq %	9 45.0	8 40.0	3 15.0	-	3.30	Accepted

Grand Mean=3.02

Table 3 showed the availability of EMIS facilities in public secondary schools. Result revealed that all the respondents agreed that 8 items were available in schools with their mean values above the 2.5 cut-off point indicated on 4-point Likert scale. However, computer, which is the item 1 had a low mean of 1.85. Considering the Grand Mean of 3.03, this simply shows that EMIS facilities are moderately available among the selected public secondary schools.

Table 3: Availability of EMIS facilities by Principal/Vice Principals in Public Secondary Schools

Item		**AA**	**OA**	**SA**	**NA**	**X**	**Remark**
Computer	Freq %	-	5 5.0	7 7.0	8 8.0	1.85	Rejected
Telephone	Freq %	10 50.0	8 40.0	2 10.0	-	3.40	Accepted
Internet	Freq %	4 20.0	12 60.0	4 20.0	-	3.00	Accepted
Photocopier	Freq %	9 45.0	6 30.0	5 25.0	-	3.20	Accepted
Printer	Freq %	7 35.0	9 45.0	4 20.0	-	3.15	Accepted
Digital/Video camera	Freq %	8 40.0	8 40.0	2 10.0	2 10.0	3.10	Accepted
Fax machine	Freq %	11 55.0	6 30.0	3 15.0	-	3.40	Accepted
School Website	Freq %	3 15.0	12 60.0	5 25.0	-	2.90	Accepted
Projector	Freq %	9 45.0	8 40.0	3 15.0	-	3.30	Accepted

Grand Mean=3.03

Teachers' accessibility to EMIS facilities in Public and Private Secondary schools

The analysis of data in Table 4 revealed that it was agreed by the teachers item 1-6 statements with high level of accessibility. This is because the result showed those items with mean values above 2.5 cut-off point based on 4-point Likert scale. It was however revealed that items 6, 7 and 8, which focused on accessibility of fax machine, website and projector with mean values of 2.20, 2.00 and 1.64 respectively were rejected. This study revealed that EMIS facilities, with a grand mean of 3.02, was considered moderately accessible in both private and public secondary schools.

Table 4: Accessibility of EMIS Facilities by teachers in both public and private secondary schools

Item		**AA**	**OA**	**SA**	**NA**	**X**	**Remark**
Computer	Freq	49	85	51	15	2.84	Accepted
	%	24.5	42.5	25.5	7.2		
Telephone	Freq	57	97	40	6	3.02	Accepted
	%	28.5	48.5	40.0	3.0		
Internet	Freq	72	78	36	14	3.04	Accepted
	%	36.0	39.0	18.0	7.0		
Photocopier	Freq	71	97	32	-	3.19	Accepted
	%	35.5	48.5	16.0			
Printer	Freq	64	89	42	5	3.06	Accepted
	%	32.0	44.5	21.0	2.5		
Digital/Video camera	Freq	75	91	34	-	3.20	Accepted
	%	37.5	45.5	17.0			
Fax machine	Freq	1	48	89	58	2.20	Rejected
	%	1.0	48.0	89.0	58.0		
School Website	Freq	10	37	96	57	2.00	Rejected
	%	5.0	18.5	48.0	28.5		
Projector	Freq	-	17	95	88	1.64	Rejected
	%		8.5	47.5	44.0		

Grand Mean=3.02

The Table 5 above shows the level of accessibility of EMIS facilities by teachers in public secondary schools. Results revealed that teachers in the selected public secondary schools do have access to items 1-7. The results of the analysis showed that these items have their mean scores above 2.5 cut-off point based on 4-point Likert scale. In other word, teachers rejected item 8 and 9 that focused on 'fax machine' and 'school website' having low mean of 1.90 and 1.89. Considering the grand mean of 2.57, it showed that teachers in public secondary schools have moderate access to EMIS facilities.

Table 5: Accessibility of EMIS facilities by teachers in Public Secondary Schools

Item		**AA**	**OA**	**SA**	**NA**	**X**	**Remark**
Computer	Freq	25	43	24	8	2.85	Accepted
	%	25.0	43.0	24.0	8.0		
Telephone	Freq	25	47	24	4	2.93	Accepted
	%	25.0	47.0	24.0	4.0		
Internet	Freq	32	38	19	11	2.91	Accepted
	%	32.0	38.0	19.0	11.0		
Photocopier	Freq	36	48	16	-	3.20	Accepted
	%	36.0	48.0	16.0			
Printer	Freq	31	45	22	2	3.05	Accepted
	%	31.0	45.0	22.0	2.0		
Digital/Video camera	Freq	34	48	18	-	3.16	Accepted
	%	34.0	48.0	18.0			
Fax machine	Freq	2	31	16	51	1.90	Rejected
	%	2.0	31.0	16.0	51.0		
School Website	Freq	2	16	51	31	1.89	Rejected
	%	2.0	16.0	51.0	31.0		
Projector	Freq	25	43	24	8	2.85	Accepted
	%	25.0	43.0	24.0	8.0		

Grand Mean=2.57

Level of accessibility of teachers to EMIS facilities among the selected private secondary schools was presented in Table 6. Results revealed that teachers agreed with item 1-7 having mean scores above 2.5 cut-off point based on 4-point Likert scale. However, items 7, 8 and 9 that focused on school website and projector had low mean of 1.97, 2.11 and 1.63 respectively. The Grand Mean of 2.81 showed that teachers in private secondary schools have moderate access to EMIS facilities.

Table 6: Accessibility in EMIS facilities by teachers in Private Secondary School

Item		AA	OA	SA	NA	X	Remark
Computer	Freq	22	46	27	7	2.83	Accepted
	%	22.0	46.0	27.0	7.0		
Telephone	Freq	32	50	16	2	3.12	Accepted
	%	32.0	50.0	16.0	2.0		
Internet	Freq	40	40	17	3	3.17	Accepted
	%	40.0	40.0	17.0	3.0		
Photocopier	Freq	-	35	49	16	3.19	Accepted
	%		35.0	49.0	16.0		
Printer	Freq	33	44	20	3	3.07	Accepted
	%	33.0	44.0	20.0	3.0		
Digital/Video camera	Freq	-	41	43	16	3.25	Accepted
	%		41.0	43.0	16.0		
Fax machine	Freq	3	24	27	46	1.97	Rejected
	%	3.0	24.0	27.0	46.0		
School Website	Freq	8	21	45	26	2.11	Rejected
	%	8.0	21.0	45.0	26.0		
Projector	Freq	-	8	47	45	1.63	Rejected
	%		8.0	47.0	45.0		

Grand Mean: 2.81

DISCUSSION

The result obtained on Tables 1 and 2 indicates that availability of EMIS facilities in both public and private secondary schools are moderate. The respondents however, indicated the non-availability of computer system in schools. This shows that, teachers operate on personal computer. It is obvious that most teachers have their personal computers and use it to carry out their jobs at both professional and personal levels. This finding was in agreement with the study of Zhao & Frank (2003), that the nature of the uses, and the result of the teacher's analysis of the uses are the control factors that ultimately determine the degree and types of computer use by teachers.

This study further established that various EMIS facilities in the selected secondary schools are not fully accessible to teachers. For instance, it was observed that fax machine, school website and projector are not accessible to teachers in the secondary schools. As revealed in the study, computer was not available but accessible in schools. The reason for this is that teachers could use their personal computer in carrying out their school activities as part of EMIS facilities required in both public and private secondary schools. In the same vein, internet is available in schools but not equally accessible to teachers. This is because most internet facilities are restricted to the office of the principal alone. The findings agreed with the study of Demir (2006), who employed the term Computerized Information Systems (CIS) for educational management. In terms of functionality, he described computer as "an information system based on one or more computers, consisting of a data bank and one or more computer applications which altogether enable computer-supported storage, manipulation, retrieval and distribution of data to support school management." It was generally revealed that EMIS facilities were moderately accessible in both private and public secondary schools.

More so, the study revealed that there is significant difference between the availability of EMIS facilities in private and public secondary school. The result of analysis generally implies that private secondary schools have an improved facility and that teachers are accessible to EMS facilities than the selected public secondary schools. This gives credence to the fact that secondary schools, especially the public must see the need to improve on EMIS for educational management and development. To this, Carter (2005) has agreed that the implementation of EMIS enables the effectiveness for school administration services because it provides data integration from several information sources, which would enable sound decision making on school management, the school structure, and teachers/staff development more effectively. This is important in maintaining details of human resource in an accurate format in order to manage an up to date information. The human resource that are concerned in this area focuses on the school personnel information detail, personnel attendance record, qualifications and professional development records and performance management records. The information from students includes

registration, curriculum, grades and attendance while those of teachers include those concerning appraisals and duty allocation.

It was revealed that there is significant correlation between availability and usage of EMIS facilities in secondary schools both at management and professional levels. Jhurreev (2006) argued that apart from classroom instruction, teachers are also involved in class administrative duties such as student record keeping, lesson planning, preparing hand-outs, preparing exam papers, marking and performing some statistical analysis which can be efficiently done using EMIS modules. According to Gurr (2007), evidence at the school level also points to the fact that the introduction of Management Information Systems not only allows current practices to be more efficient, but also allows new practices to be established. The use of EMIS in management was enumerated by Visscher (2009), who identified three stages that Management Information System in educational management went through; namely, the initial developmental stage (where schools had initial administrative computer applications); and the expansion stage (where loose, non-integrated clerical and administrative applications were used).

CONCLUSION

This study assessed the availability and accessibility of EMIS facilities in secondary schools of Ondo North Senatoeial District, Nigeria. Despite the significance of EMIS facilities as veritable tools in determining the quality of teaching and management practices in secondary schools; it is pertinent to note that the various EMIS facilities in the selected secondary schools are not fully accessible to teachers. It was revealed that there where significant differences between the availability of EMIS facilities in private and public secondary school. This improved level of EMIS facilities in the private schools gives credence to the fact that public secondary school should upgrade its level of EMIS facilities for better educational management and development.

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